

REMARKS

Applicant respectfully requests reconsideration of the present application in view of the foregoing amendments and in view of the reasons that follow. At the time of the outstanding Office Action, claims 1-4, 9-14, 19, 21, 24, 28-30 and 32 were pending in this application. Of these claims, claims 1, 14 and 28-30 have been amended and claim 33 has been added. Support for these amendments can be found at least on page 7, lines 23-28 of the specification as filed. A detailed listing of all claims that are, or were, in the application, irrespective of whether the claim(s) remain under examination in the application, is presented, with an appropriate defined status identifier. Thus, claims 1-4, 9-14, 19, 21, 24, 28-30, 32 and 33 are now pending for examination in this application.

Objections to the Claims:

Claim 12 has been objected to under 35 C.F.R. 1.75(c) as being of improper dependent form. Claim 12 recites a “vacuum processing apparatus according to claim 1, characterized in that said vacuum processing apparatus is a reduced-pressure processing apparatus.” The Examiner asserts that this claim fails to further limit claim 1, because “all vacuum apparatuses are reduced pressure apparatus.” (OA, page 14, item 12 a, lines 4-5) However, the application as filed makes a clear distinction that not all vacuum apparatuses are reduced pressure apparatuses. The specification of the application clearly states that:

“This invention relates to a reduced-pressure processing apparatus, a vapor deposition apparatus, and so on and, in particular, relates to a reduced-pressure processing apparatus and a vapor deposition apparatus in which contamination such as organic matter is reduced. Hereinafter, **an apparatus that carries out treatment at a pressure lower than the atmospheric pressure** like the reduced-pressure processing apparatus or the vapor deposition apparatus **will be collectively called a vacuum processing apparatus in this specification.**” (page 1, lines 6-14 of the specification as filed; emphasis added)

As Applicant is allowed to be his or her own lexicographer (MPEP 2111.01, Section IV), it is clear that Applicant defines a vacuum processing apparatus to be any “apparatus that carries

out treatment at a pressure lower than the atmospheric pressure,” with the example of a reduced-pressure processing apparatus explicitly given in the specification. Thus, since a reduced-pressure processing apparatus is a type of vacuum processing apparatus according to the specification of the invention, it is clear that claim 12 does in fact further limit claim 1, by limiting the vacuum processing apparatus to a specific type of such an apparatus. Thus, reconsideration and withdrawal of this objection is respectfully requested.

Claim Rejections under 35 U.S.C. 112:

Claims 1-4, 9-14, 19, 21, 24, 28-30 and 32 have been rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The Examiner specifically questions enablement for limiting all gaskets except one door gasket being made of metal or ceramic. The claims have been amended to address this issue. Thus, reconsideration and withdrawal of this rejection is respectfully requested.

Further, claims 1-4, 9-14, 19, 21, 24, 28-30 and 32 have been rejected under 35 U.S.C. 112, second paragraph as allegedly being indefinite. Specifically, claim 1 has been rejected with regards to the feature of “a small emission of organic matter.” Independent claim 1 has been amended to address this issue. Claim 30 has been rejected with regards to the terms high and low frequency, and with regards to the emission prevention process. Claim 30 has been amended to address this issue. Thus, reconsideration and withdrawal of these rejections are respectfully requested.

Prior Art Rejections:

Claims 28 and 29 have been rejected under 35 U.S.C. 102(b) as being anticipated by U.S. patent Application Publication 2002/0132047 to Yamazaki et al. (hereinafter “Yamazaki”). Claim 28 recites an organic EL element that includes “organic layer formed by the user of the vapor deposition apparatus according to claim 1.” Claim 29 recites analogous features. The Examiner has cited MPEP 2113 in the rejection, referring to product-by-process claims.

MPEP 2113 recites, with emphasis:

“‘[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself.

The patentability of a product does not depend on its method of production. **If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process."** *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985) (citations omitted) (Claim was directed to a novolac color developer. The process of making the developer was allowed. The difference between the inventive process and the prior art was the addition of metal oxide and carboxylic acid as separate ingredients instead of adding the more expensive pre-reacted metal carboxylate. The product-by-process claim was rejected because the end product, in both the prior art and the allowed process, ends up containing metal carboxylate. The fact that the metal carboxylate is not directly added, but is instead produced in-situ does not change the end product.).

>The structure implied by the process steps should be considered when assessing the patentability of product-by-process claims over the prior art, especially where the product can only be defined by the process steps by which the product is made, or where the manufacturing process steps would be expected to impart distinctive structural characteristics to the final product. See, e.g., *In re Garnero*, 412 F.2d 276, 279, 162 USPQ 221, 223 (CCPA 1979) (holding "interbonded by interfusion" to limit structure of the claimed composite and noting that terms such as "welded," "intermixed," "ground in place," "press fitted," and "etched" are capable of construction as structural limitations.)<"

Thus, in citing MPEP 2113, the Examiner is asserting that the organic layer in Yamakazi is of has the same structural characteristics of the organic layer of the invention as claimed, and further that two organic layers are the same. However, Applicants respectfully submit that the organic layer of Yamakazi is not identical, and does not contain the same structural characteristics, as the organic layer of the invention as claimed.

The invention as claimed provides gaskets strategically placed in a vacuum processing apparatus to ensure airtightness. If gas is emitted from the constituent material of gaskets, it can contaminate the objects and become entrained in a deposited film. Thus, if there is no assurance of airtightness in the vacuum processing apparatus, the organic layer may contain impurities that an organic layer of the invention as claimed would not have. Thus, its structural characteristics would be different. There is no teaching or suggestion in Yamakazi of airtightness. Yamakazi does teach purifying the organic compound. However, the impurities removed by the teachings of Yamakazi may be different than those removed by the apparatus of the invention as claimed. Applicants respectfully submit that the Patent Office has failed to establish that the organic layers of Yamakazi and the invention as claimed have identical characteristics. In fact, Yamakazi details removing impurities in the original organic compound by heating (paragraphs 0021-0025), whereas the invention as claimed details restricting the introduction of impurities into an organic compound (page 6, lines 17-25). Thus, Applicants respectfully submit that the organic layers produced by Yamakazi and the invention as claimed are different. Thus, Yamakazi fails to anticipate claims 28 and 29. If this rejection is maintained the Examiner is respectfully requested to point out where this feature is found in Yamakazi.

Claims 1, 2, 4, 11-14 and 24 have been rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 4,889,319 to Phillips et al. (hereinafter "Phillips") in view of English translation of Japanese Patent 2002-310302 to Yoshiro et al. (hereinafter "Yoshiro"). Claims 3, 30 and 32 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Phillips in view of Yoshiro and further in view of English translation of Japanese Patent 06-107803 to Hisaharu et al. (hereinafter "Hisaharu"). Claim 9 has been rejected under 35 U.S.C. 103(a) as being unpatentable over Phillips in view of Yoshiro and further in view of English translation of Japanese Patent 09-189290 to Kenichi (hereinafter "Kenichi"). Claim 10 has been rejected under 35 U.S.C. 103(a) as being unpatentable over Phillips in view of Yoshiro and further in view of U.S. Patent 5,863,842 to Ohmi (hereinafter "Ohmi"). Claim 19 has been rejected under 35 U.S.C. 103(a) as being unpatentable over Phillips in view of Yoshiro and further in view of U.S. Patent Application Publication 2002/0132047 to Yamazaki et al. (hereinafter "Yamazaki"). Claims 19 and 21 have been rejected under 35

U.S.C. 103(a) as being unpatentable over Phillips in view of Yoshiro and further in view of U.S. Patent Application Publication 2003/0026601 to Jabbour (hereinafter “Jabbour”). These rejections are respectfully traversed for at least the following reasons.

Independent claim 1 recites, with emphasis, a “vacuum processing apparatus comprising a pressure-reduction container, exhaust means joined to said pressure-reduction container, and a processing object introducing door connected to said pressure-reduction container through a door gasket, and a gasket which is placed between the pressure-reduction container and said exhaust means to ensure airtightness between said pressure-reduction container and said exhaust means; wherein **said door gasket is made of a material with a small emission of organic matter while the gasket is formed by either one of a metal and a ceramic**; wherein the material with the small emission of organic matter has a relative ion intensity which does not exceed 0.1% at a molecular weight of 100 or more when it is measured by an API-MS in atmospheric-pressure Ar.”

Independent claim 1 has been rejected under 35 U.S.C. 103(a) as being unpatentable over Phillips in view of English translation of Japanese Patent 2002-310302 to Yoshiro. Phillips teaches conventional bakeable vacuum systems which have all-metal seals (column 1, lines 58 to 60). Such metal seals must be carefully controlled about torque applied to the metal seals to avoid progressive deterioration of a re-usable seal (column 2, lines 25 to 27). This is an inconvenience in use, particularly in systems such as apparatus for molecular beam epitaxy where seals and valves are frequently closed and re-opened in operation (column 2, lines 28 to 31). Instead of the metal seals, Phillips proposes a bakeable sealing means comprising a first sealing element composed substantially of an elastomeric material, a second sealing element comprising PTFE (polytetrafluoroethylene), and means for engaging the first sealing element with the second sealing element and for compressing the first sealing element (column 2, lines 43 to 48).

From this fact, it is readily understood that Phillips teaches an individual improvement of each sealing means which is included in the molecular beam epitaxy apparatus, by forming each sealing means by different materials, such as the elastomeric material and the PTFE. In addition, such an improvement is to improve the inconvenience of the metal seals.

Therefore, no teaching is made at all in Phillips about an apparatus which comprises a plurality of seal members or a plurality of gaskets formed by materials different from each other. In other words, Phillips never considers a total system of the apparatus comprising a plurality of seal members or gaskets. Phillips fails to teach or disclose that a door gasket and a gasket which is placed between the pressure-reduction container and said exhaust means to ensure airtightness between said pressure-reduction container and said exhaust means where said “door gasket is made of a material with a small emission of organic matter while the gasket is formed by either one of a metal and a ceramic.” Further, the Examiner correctly asserts that Phillips fails to teach or disclose the door gasket is made of a material with a small emission of organic matter.

Yashiro fails to make up for the deficiencies of Phillips as detailed above. Yashiro discloses a sealing material for a vacuum system. The sealing material is formed by fluororubber copolymer which contains tetrafluoroethylene and propylene as a polymerization component and unsaturated radical. However, Yashiro neither discloses a combination of different sealing materials used in an apparatus nor defines a material with a small emission of organic material. Thus, Yashiro fails to teach or disclose a door gasket and a gasket which is placed between the pressure-reduction container and said exhaust means to ensure airtightness between said pressure-reduction container and said exhaust means where said “door gasket is made of a material with a small emission of organic matter while the gasket is formed by either one of a metal and a ceramic.”

Independent claim 1 further includes the feature that “the material with the small emission of organic matter has a relative ion intensity which does not exceed 0.1% at a molecular weight of 100 or more when it is measured by an API-MS in atmospheric-pressure Ar.” Applicants respectfully submit that neither Phillips nor Yoshiro teach this feature of the invention as claimed.

If this rejection is maintained, the Examiner is respectfully requested to point out where these features are found in either Phillips or Yashiro.

The dependent claims are also patentable for at least the same reasons as the independent claims on which they ultimately depend. In addition, they recite additional patentable features when considered as a whole. As mentioned above, Applicants believe

that the present application is now in condition for allowance. Favorable reconsideration of the application as amended is respectfully requested.

Independent claim 30 has been rejected under 35 U.S.C. 103(a) as being unpatentable over Phillips in view of Yoshiro and further in view of Hisaharu. Independent claim 30 recites a “vacuum processing apparatus comprising a plurality of airtight sealing members, which are different from each other in frequencies of attach/detach and which includes a first sealing member for sealing a door used at a high frequency of the attach/detach and a second sealing member for sealing each portion except the door that is used at a low frequency of the attach/detach in comparison with the door, wherein the first sealing member is formed by an organic matter subjected to an emission prevention process while the second sealing member is formed by a matter different from the organic matter; wherein the first sealing member is subjected to the emission prevention process so that it has a relative ion intensity which does not exceed 0.1% at a molecular weight of 100 or more when it is measured by an API-MS in atmospheric-pressure Ar.”

As shown above, Phillips and Yoshiro failed to teach or disclose “includes a first sealing member for sealing a door used at a high frequency of the attach/detach and a second sealing member for sealing each portion except the door that is used at a low frequency of the attach/detach in comparison with the door, wherein the first sealing member is formed by an organic matter subjected to an emission prevention process while the second sealing member is formed by a matter different from the organic matter.” Hisaharu fails to make up for the deficiencies of Phillips and Yoshiro as detailed above. There is no teaching or suggestion in Hisaharu of such a feature.

Independent claim 30 further includes the feature that “the first sealing member is subjected to the emission prevention process so that it has a relative ion intensity which does not exceed 0.1% at a molecular weight of 100 or more when it is measured by an API-MS in atmospheric-pressure A.” Applicants respectfully submit that Phillips, Yoshiro and Hisaharu all fail to teach this feature of the invention as claimed.

If this rejection is maintained, the Examiner is respectfully requested to point out where these features are found in either Phillips, Yoshiro or Hisaharu.

The dependent claims are also patentable for at least the same reasons as the independent claims on which they ultimately depend. In addition, they recite additional patentable features when considered as a whole. As mentioned above, Applicants believe that the present application is now in condition for allowance. Favorable reconsideration of the application as amended is respectfully requested.

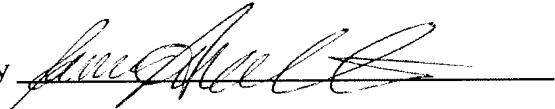
Conclusion:

Applicant believes that the present application is now in condition for allowance. Favorable reconsideration of the application as amended is respectfully requested. The Examiner is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.

The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 19-0741. Should no proper payment be enclosed herewith, as by a check being in the wrong amount, unsigned, post-dated, otherwise improper or informal or even entirely missing or a credit card payment form being unsigned, providing incorrect information resulting in a rejected credit card transaction, or even entirely missing, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 19-0741. If any extensions of time are needed for timely acceptance of papers submitted herewith, Applicant hereby petitions for such extension under 37 C.F.R. §1.136 and authorizes payment of any such extensions fees to Deposit Account No. 19-0741.

Respectfully submitted,

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